Published in final edited form as:

JAMA. 2017 August 01; 318(5): 425–426. doi:10.1001/jama.2017.8913.

New Data on Opioid Use and Prescribing in the United States

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The United States is in the midst of an opioid overdose epidemic. Between 1999 and 2010, prescription opioid–related overdose deaths increased substantially in parallel with increased prescribing of opioids.[1] In 2015, opioid-involved drug overdoses accounted for 33 091 deaths, approximately half involving prescription opioids.[2] Additionally, an estimated 2 million individuals in the United States have opioid use disorder (addiction) associated with prescription opioids, accounting for an estimated $78.5 billion in economic costs annually.[3] Proven strategies are available to manage chronic pain effectively without opioids, and changing prescribing practices is an important step in addressing the opioid overdose epidemic and its adverse effects on US communities.

On July 6, 2017, the US Centers for Disease Control and Prevention reported that between 2006 and 2015 the amount of opioids prescribed in the United States peaked in 2010 at 782 morphine milligram equivalents (MME) per capita and then decreased each year through 2015 to 640 MME per capita. Prescribing rates increased from 72.4 to 81.2 prescriptions per 100 persons between 2006 and 2010, were constant between 2010 and 2012, and then declined to 70.6 per 100 persons from 2012 to 2015, a 13.1% decline.[1] Yet the amount of opioids prescribed in 2015 remains more than 3 times higher than in 1999, when the amount prescribed was 180 MME per capita, and is nearly 4 times higher than in Europe in 2015.

Additional data from the report include that high-dose opioid prescribing, defined as a daily dose of 90 MME or higher, was stable between 2006 and 2010, and then declined from 11.4 per 100 persons in 2010 to 6.7 in 2015.[1] Also reported was substantial variation in 2015 at the county level from an average of 203 MME per capitain the lowest quartile of counties to 1319 MME per capita in the highest quartile.

The reduction in opioid prescribing may be related to increasing awareness of the risks associated with opioids as well as to state-level policies aimed to reduce inappropriate opioid prescribing. During this period (2006-2015), several states implemented policies

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Conflict of Interest Disclosures: All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

temporally associated with large decreases in prescribing. For example, Ohio in 2011 and Kentucky in 2012 implemented pain clinic regulations and began requiring clinicians to review prescription drug monitoring program data.[4] From 2010 to 2015, per capita opioid prescribing decreased in 85% of the 88 Ohio counties and in 62% of the 114 Kentucky counties examined.[1] Florida implemented similar policies during this period, and the amounts of opioids prescribed decreased in 80% of the 66 Florida counties examined from 2010 to 2015.[1] The policies implemented in these states have been shown to reduce both the amount of opioids prescribed and opioid overdose death rates.[4] These types of state innovations demonstrate that substantial changes are possible.

However, nationally, despite the observed reductions in opioid prescribing, opioid-involved overdose death rates continue to increase. These increases are driven largely by the use of illicit opioids, such as heroin and illicitly manufactured fentanyl.[2] The increase in illicit opioids and high levels of prescription opioid use are related. In Rhode Island, 24 of the 69 people who died from an illicit fentanyl overdose between January 2012 and March 2014 had filled an opioid prescription within 90 days of death.[5] Reducing inappropriate opioid prescribing will likely have an important role in addressing illicit opioid use.

There is no evidence that state policies designed to reduce inappropriate opioid prescribing are leading to increases in heroin use and deaths from illicit opioid use. In fact, such policies have been shown to reduce the amount of opioids prescribed, prescription opioid– involved overdose deaths, and all opioid-involved deaths.[4] Some evidence also suggests that these opioid prescribing policies may reduce heroin overdose deaths.[4] By reducing the number of people initially exposed to opioids, and the subsequent risk of addiction, these policies may actually reduce the number of people initiating illicit use of opioids in the long term.

From 2006 to 2015, the average duration of opioid prescriptions increased by a third, from 13.3 to 17.7 days. The new data suggest that fewer patients may be initiating prescription opioid use, whereas patients already prescribed opioids may be continuing long-term use.[1] Taking opioids for longer periods increases the risk of opioid use disorder, overdose, and death. According to a study based on administrative data from 2000 through 2005, patients with chronic non-cancer-related pain who took opioids for more than 90 days, even at low doses, had a substantially higher odds (odds ratio, 14.92) of developing opioid use disorder (absolute rate, 0.72%) compared with those who were not prescribed opioids.[6]

Understanding these risks may help clinicians evaluate their opioid prescribing patterns and potentially reduce long-term opioid use. Before prescribing opioid therapy, clinicians should discuss with patients the known risks and realistic benefits of long-term opioid use, regularly follow up to determine whether opioids are meeting treatment goals, and examine the potential benefits of reducing opioids to a lower dosage, or gradually tapering and discontinuing use.

The substantial variation observed in opioid prescribing at the county level, with providers in the highest prescribing counties prescribing 6 times more opioids per person than in the lowest prescribing counties, suggests inconsistent practice patterns and a lack of consensus about appropriate opioid use.[1] The *CDC Guideline for Prescribing Opioids for Chronic Pain*

—*United States, 2016* sets forth evidence-based recommendations about opioid prescribing for primary care clinicians treating adults with chronic pain outside of active cancer treatment, palliative care, and end-of-life care, and recommends the use of nonopioid therapy for treatment of chronic pain.[7] The cycle of prescribing opioids begins with clinicians. In 2016, the former US surgeon general sent a letter to all licensed physicians and issued updated resources on safe prescribing, managing pain, and linking patients to addiction treatment as part of the "Turn the Tide" campaign.[8] In addition, numerous professional societies including the American College of Physicians, the American Academy of Family Practice, and the American Medical Association have introduced programs to help educate physicians about opioid prescribing.

Beyond changing patterns of prescribing, acomprehensive public health approach is needed to address social norms around opioids. A key to reducing the risks associated with long-term opioid therapy is public awareness regarding the risks of opioid use. CDC has developed an upcoming communication campaign about the dangers of prescription opioids that includes individuals and families affected by opioid use and misuse and features testimonials, images, and powerful messages. Unmasking the devastation of opioid use disorder and overdose can help increase population-level understanding of the inherent risks of opioids, deter inappropriate use, alert individuals to their own risks of opioid use, and improve communication between clinicians and patients.

The epidemic of opioid misuse, overdose, and death is a multifaceted crisis that requires partnership across sectors to respond with effective health care and public safety strategies. Reducing over-prescribing practices prevents people from becoming addicted in the first place, potentially changing the demand for opioids.

Another strategy for reducing harm from opioid overdose is to understand factors related to the supply of illicit opioids. At the intersection of law enforcement and public health are surveillance activities, data sharing, and rapid response to illicit opioids. As the epidemic continues to evolve, deaths linked to illicit opioids such as heroin and fentanyl have increased. CDC works with law enforcement to help identify trends in prescribing practices and associated risk factors and direct their efforts to emerging illicit threats. In turn, law enforcement seizure data help various state and federal agencies target high burden areas to focus prevention efforts. The goal is to promote life-saving public health interventions and treatments, such as linkage to treatment for substance use disorder and increasing access to naloxone to reverse opioid overdose.

Too many individuals in the United States are adversely affected by the opioid crisis, either from misuse of prescription opioids or use of illicit opioids. Physicians and other health professionals can help prevent many individuals from becoming addicted to opioids or overdosing by improving opioid prescribing practices as part of a coordinated public health approach.

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